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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,962	09/05/2006	Masahiro Nakazaki	0020-5421PUS1	6132
2292 7590 09/11/2007 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER KHAN, AMINA S	
			ART UNIT 1751	PAPER NUMBER
			NOTIFICATION DATE 09/11/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/551,962	<b>Applicant(s)</b> NAKAZAKI ET AL.	
	<b>Examiner</b> Amina Khan	<b>Art Unit</b> 1751	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 June 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This office action is in response to applicant's amendments filed on June 13, 2007.
2. Claims 1-20 are pending. Claims 1 and 6 have been amended. Claims 11-20 are new.
3. Claims 1,2,5-7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vanlerberghe et al. (US 4,371,517) are maintained for the reasons set forth in the previous office action.
4. The rejection of claims 1,3-6 and 8-10 under 35 U.S.C. 103(a) as being unpatentable over Moller et al. (WO 01/34106) is withdrawn.
5. The rejection of claims 1,3-6 and 8-10 under 35 U.S.C. 103(a) as being unpatentable over Moller et al. (WO 99/18916) is withdrawn.
6. The rejection of claims 1,4-6,9 and 10 under 35 U.S.C. 103(a) as being unpatentable over Pai (US 5,516,338) is withdrawn

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 3,4,8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vanlerberghe et al. (US 4,371,517) in view of Moller et al. (WO 01/34106). The WO 99/18916 reference is not in English so the US equivalent (US 6,790,239) is being used for citation purposes.

Vanlerberghe et al. teach dyeing textiles and hair by applying to the textiles a dye (column 11, lines 10-40), a homopolymer of acrylic or methacrylic acid (column 2, lines 45-56), alkali metal salts (column 2, lines 5-15), and benzyl alcohol (column 11, line 2). Vanlerberghe et al. further teach drying the fabrics with thermal treatments at a temperature and for a duration compatible with the properties of the material and polymers used (column 19, lines 5-42).

Vanlerberghe et al. do not teach iron salts or hydroxybenzaldehydes.

Moller et al. teach compositions for coloring hair and cellulosic textiles (column 3, lines 55-65) comprising treating the textiles with hydroxybenzaldehyde compounds (column 4, lines 5-12), polyacrylic acids (column 9, lines 29-30) and metal salts such as iron salts (column 10, lines 35-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the instantly claimed components from the teachings of Moller et al. into the compositions of Vanlerberghe et al. because Moller et al. teach the equivalence of alkali metal salts and iron salts in coloring compositions/methods and the utility of hydroxybenzaldehyde components as useful in providing coloring, softness and good hold to cotton textiles. One of ordinary skill in the art would have been motivated to select these components absent unexpected results.

9. Claims 3,4,8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vanlerberghe et al. (US 4,371,517) in view of Moller et al. (WO 99/18916). The WO 99/18916 reference is not in English so the US equivalent (US 6,371,993) is being used for citation purposes.

Vanlerberghe et al. teach dyeing textiles and hair by applying to the textiles a dye (column 11, lines 10-40), a homopolymer of acrylic or methacrylic acid (column 2, lines 45-56), alkali metal salts (column 2, lines 5-15), and benzyl alcohol (column 11, line 2). Vanlerberghe et al. further teach drying the fabrics with thermal treatments at a temperature and for a duration compatible with the properties of the material and polymers used (column 19, lines 5-42).

Vanlerberghe et al. do not teach iron salts or hydroxybenzaldehydes.

Moller et al. teach compositions for coloring hair and cellulosic textiles (column 3, lines 15-25) comprising treating the textiles with hydroxybenzoic acid and sulfonic

Art Unit: 1751

compounds (column 4, lines 24-30; column 6, lines 5-15), polyacrylic acids (column 10, lines 20-30) and metal salts such as iron salts (column 11, lines 14-30).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the instantly claimed components from the teachings of Moller et al. into the compositions of Vanlerberghe et al. because Moller et al. teach the equivalence of alkali metal salts and iron salts in coloring compositions/methods and the utility of hydroxybenzaldehyde components as useful in providing coloring, softness and good hold to cotton textiles. One of ordinary skill in the art would have been motivated to select these components absent unexpected results.

10. Claims 1-10,12 and 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pai (US 5,516,338) in view of Collier et al. (US 2005/02106600). Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Pai teaches dyeing textiles cotton with basic dyes after the cotton has been treated with a sulfonic group containing stain resist agent (column 2, lines 10-17). Pai further teaches exhausting the cottons with tannic acids and ferric salts (column 3, lines 25-60). Pai further teach that all tannins contain hydroxyphenols (column 3, lines 50-55).

Pai does not teach adhesion curing or binder immobilization.

Collier et al. that phenol sulphonated stain resistance agents are usually applied with acrylate or polyurethane binders (column 3, paragraph 0030-0033) at high temperatures of 160-320°F to dry (page 5, paragraph 0046) to cotton (page 6, paragraph 0055).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the methods of Pai by incorporating the curing and binder immobilization methods taught by Collier because Collier teaches these methods as effective in providing stain resistance to cottons treated with phenol sulfonate stain resists. One of ordinary skill in the art would have been motivated to combine the teachings of the references absent unexpected results.

All disclosures of the prior art, including non-preferred embodiment, must be considered. See *In re Lamberti and Konort*, 192 USPQ 278 (CCPA 1967); *In re Snow* 176 USPQ 328 (CCPA 9173). Nonpreferred embodiments can be indicative of obviousness, see *Merck & Co. v. Biocraft Laboratories Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1989); *In re Lamberti*, 192 USPQ 278 (CCPA 1976); *In re Kohler*, 177 USPQ 399. A reference is not limited to the working examples, see *In re Fracalossi*, 215 USPQ 569 (CCPA 1982).

11. Claims 1-10, 12 and 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pai (US 5,516,338) in view of Sargent et al. (US 2005/02106600).

Pai teaches dyeing textiles cotton with basic dyes after the cotton has been treated with a sulfonic group containing stain resist agent (column 2, lines 10-17). Pai

Art Unit: 1751

further teaches exhausting the cottons with tannic acids and ferric salts (column 3, lines 25-60). Pai further teach that all tannins contain hydroxyphenols (column 3, lines 50-55).

Pai does not teach adhesion curing or binder immobilization.

Sargent et al. that phenol sulphonated stain resistance agents such as sulphonated aromatic polymers (column 4, lines 40-50) are applied to cottons (abstract) at high temperatures of 160-320°F to dry (column 8, lines 30-45). Sargent et al. further teach using carboxylic acids such as polyacrylic or methacrylic in the compositions (column 9, lines 1-5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the methods of Pai by incorporating the curing methods and polyacrylates taught by Collier because Collier teaches these compounds and methods as effective in providing stain resistance to cottons treated with aromatic sulfonate stain resists. One of ordinary skill in the art would have been motivated to combine the teachings of the references absent unexpected results.

All disclosures of the prior art, including non-preferred embodiment, must be considered. See *In re Lamberti and Konort*, 192 USPQ 278 (CCPA 1967); *In re Snow* 176 USPQ 328 (CCPA 9173). Nonpreferred embodiments can be indicative of obviousness, see *Merck & Co. v. Biocraft Laboratories Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1989); *In re Lamberti*, 192 USPQ 278 (CCPA 1976); *In re Kohler*, 177 USPQ 399. A reference is not limited to the working examples, see *In re Fracalossi*, 215 USPQ 569 (CCPA 1982).



12. Claims 1-3,5-8 and 10-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sanders et al. (US 5,212,040).

Sanders et al. teach treating cellulose fiber based substrates (column 8, lines 10-20) with compositions comprising binders and color forming microcapsules (column 8, lines 25-30) wherein the capsule wall (5-50% of capsule weight) may be formed from polyurethane or polymethacrylates or acrylates (column 9, lines 30-40; column 10, lines 20-25) and the capsule color forming filling may be selected from dye precursors such as tannic acid and metal salts (column 13, lines 10-30; 65-68). Sanders et al. further teach exposing the paper to radiation such as electron beams to cause the capsule walls to break and leak the color forming compound (column 11, lines 20-25; column 15, lines 60-65). Pigments may be used instead of dyes in the toner ((column 17, lines 49-60). Sanders et al. teach that dry coat weights are 2-10g/m<sup>2</sup> with 1-5 g/m<sup>2</sup> being solvent, 0.01-0.1 g/m<sup>2</sup> being color forming material and the balance being binder and capsule material (column 13, lines 1-10).

Sanders et al. do not teach all the instantly claimed embodiments in a single example or the adhesion amount of the polycarboxylate.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the instantly claimed components from the teachings of Sanders et al. because Sanders et al. teach similar components combined by similar methods and applied to similar substrates for similar utility. It would further have been obvious that the methods of Sanders et al. would employ a two step process in which

Art Unit: 1751

upon exposure to the radiation the microcapsules would break firstly exposing the polyacrylate to the cellulose and secondarily releasing the tannic acid and metal salt filling to the cellulose. One of ordinary skill in the art would expect the adhesion amounts of the polycarboxylates to encompass the broad range instantly claimed. One of ordinary skill in the art would have been motivated to modify the teachings of the references absent unexpected results.

### ***Response to Arguments***

13. Applicant's arguments filed regarding Vanlerberghe et al. have been fully considered but they are not persuasive. The examiner asserts that the applicant defines adhesion curing in the instant specification as immersion in a composition followed by drying (paragraph 0021). The examiner asserts that Vanlerberghe et al. teach applying polymers of acrylic or polyacrylates which contain carboxylic groups to textiles followed by drying in an oven (column 4, lines 15-20; example 72). These steps meet the limitations of adhesion curing and therefore the rejections are maintained.

### ***Conclusion***

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amina Khan whose telephone number is (571) 272-5573. The examiner can normally be reached on Monday through Friday, 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas McGinty can be reached on (571) 272-1029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1751

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AK

September 4, 2007

*Lorna M. Douyon*  
LORNA M. DOUYON  
PRIMARY EXAMINER